VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) A device for detecting the presence of an antigen, comprising:

a [cell] fibroblast having chimeric antibodies which are expressed on the surface of the [cell] fibroblast and are specific for the antigen to be detected, wherein binding of the antigen to the antibodies results in an increase in calcium concentration in the cytosol of the [cell] fibroblast, the [cell] fibroblast further having an emitter molecule which, in response to the increased calcium concentration, emits a photon;

a liquid medium in which the [cell] fibroblast is immersed, the liquid medium receiving the antigen to be detected; and

an optical detector arranged for receiving the photon emitted from the [cell] fibroblast.

2. (Amended) The device of claim 1, wherein the optical detector is [affixed to] in direct contact with the liquid medium [containing the cells].

7. (Amended) The device of claim 1, wherein the [antibody is a] antibodies are single-chain [antibody] antibodies.

9. (Amended) A device for detecting the presence of two or more antigens, comprising:

an array containing a plurality of sectors, each sector containing a [cell] fibroblast having chimeric antibodies which are expressed on the surface of the [cell] fibroblast and are specific for the antigen to be detected, wherein binding of the antigen to the antibodies results in an increase in calcium concentration in the cytosol of the [cell] fibroblast, the [cell] fibroblast further having an emitter molecule which, in response to the increased calcium concentration in the cytosol, emits a photon;

liquid media in which the [cell] fibroblast of each sector is immersed; and

an optical detector arranged for receiving the photon emitted from the [cell] fibroblast;

wherein each sector contains a [cell] fibroblast having antibodies specific to a different antigen.

10. (Amended) The device of claim 9, wherein the optical detector is [affixed to] in direct contact with the liquid medium [containing the cells].

15 (Amended) The device of claim 9, wherein the [antibody is a] antibodies are single-chain [antibody] antibodies.

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REMARKS

Claims 1, 2, 7-11, and 16-17 are now pending in the application, claims 4-6, 12-14, and 18-22 having been cancelled by the above amendments. Claim 1 has been amended to incorporate the limitations of claims 5 and 6, and claim 9 has been amended to incorporate the limitations of claims 13 and 14. Claims 2, 7, 10, and 15 have been amended to clarify the claims language. Support for the "in direct contact" limitation in claims 2 and 10 can be found at page 11, lines 27-29. No new matter has been added by any of the above amendments.

Applicants thank the Examiner for his courteous interview by telephone with the undersigned on January 8, 2001. In that interview, the Examiner indicated a willingness to withdraw the enablement rejection under 35 U.S.C. § 112, first paragraph, if independent claims 1 and 9 are limited to fibroblasts expressing chimeric antibodies. Because applicants have now so limited claims 1 and 9, the enablement rejection should be withdrawn.

Claims 1-17 are rejected under 35 U.S.C. § 112, second paragraph, for an alleged failure to recite the spatial relationship between the various elements of the claimed device. Applicants note, however, that as much relationship as the subject matter allows is already provided in the claims. For example, claims 1 and 9 require that the fibroblast is immersed in the liquid medium, and that the optical detector is arranged to receive a photon emitted from the fibroblast. Given the structural variations of the claimed device described in the specification, the spatial relationships already required in claims 1 and 9 are as clear as the subject matter allows and therefore satisfy the requirements of 35 U.S.C. § 112, second paragraph. Nevertheless, applicants are willing to consider any reasonable amendment that the Examiner may suggest to place the claims in condition for allowance.

Claims 2 and 10 are additionally rejected under 35 U.S.C. § 112, second paragraph, for failing to indicate how a detector can be "affixed" to a liquid medium. Applicants have amended claims 2 and 10 to recite instead that the detector is "in direct contact" with the liquid medium. Consequently, claims 2 and 10 are as definite as the subject matter allows, and the rejection should be withdrawn.

Obviousness-Type Double Patenting

Claims 1-4, 9-12, and 17 are rejected as obviousness-type double patenting over Rider, U.S. Patent No. 6,078,114. Since independent claim 1 has been amended to incorporate the

limitations of claims 5 and 6 (which have not been rejected for obviousness-type double patenting), and independent claim 9 has been amended to incorporate the limitations of claims 13 and 14 (which also have not been rejected for obviousness-type double patenting), the rejection no longer applies to claims 1 and 9 and their dependent claims.

Applicants submit that all of the claims are now in condition for allowance, which action is requested. Filed herewith is a Petition for Automatic Extension with the required fee. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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